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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,037	02/27/2004	Cenk Acar	UC1.PAU.48	8350

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Daniel L. Dawes
MYERS DAWES ANDRAS & SHERMAN LLP
11th Floor
19900 MacArthur Boulevard
Irvine, CA 92612

EXAMINER

HANLEY, JOHN C

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

EX.

Office Action Summary	Application No. 10/789,037	Applicant(s) ACAR ET AL.	
	Examiner John C. Hanley	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION***Drawings***

1. The drawings are objected to because no clear and legible overall schematic is shown. The details in Figure 1 are too small of a scale to enable one to readily interpret the structural relationship of the elements. An expanded view of the entire structure similar to the expanded view of Figure 4 is required. Preferably, Figure 4 could be replaced with only the expanded view of the entire structure, instead of repeating the view of Figure 1. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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Specification

2. The disclosure is objected to because of the following informalities: The use of the terms 2-DOF and 4-DOF by applicant throughout the specification and claims is objectionable. Although applicant may be his own lexicographer, the use of these terms is indefinite, confusing, and perhaps repugnant to their normal meaning. It is submitted that the extrapolation of the 2-DOF for a single mass is not properly or clearly extended to a plurality of masses, where at least one of the masses (M1) is constrained to move in only one direction, and, in the case of "a 2-DOF drive-mode oscillator", only one of the masses (M1) is actively driven, and the other two masses are only passively driven in the same direction. Likewise with the sense-mode arrangement. Further, it is submitted that 2-DOF plus 2-DOF does not equal 4-DOF according to the normal meaning of the term.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:
- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The terms 4-DOF and 2-DOF are structurally vague and indefinite in the context in which they are used, as set forth above. It is vague as to what structure might infringe such language as used by applicant, where some of the elements of the structure can move only one way, for example. Also at issue is the use of the

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term "proof mass" to label all three masses, since, for example, mass one is not proof of anything. Further, where a mass is labeled as "proof mass", it would be more clear if the same label were used throughout the dependent claims when referring back, instead of the shortened "masses".

5. The claims are replete with vague functional language. For example, in claim 2, the functional language "to achieve large oscillation amplitudes without resonance resulting in increased bandwidth . . .", etc., is full of indefinite relative terminology more akin to marketing language than structurally supported elements. Likewise with the language "for robustness and long-term stability . . ." in claim 3, the language "resulting in larger Coriolis forces . . ." in claim 17, etc. Such language is given little, if any, patentable weight.

6. Antecedent basis is lacking for "the flat regions" in claim 8; "the vibration absorber" in claim 5; "the flat regions" in claim 8; and "the isolated passive mass spring system . . ." of claim 13.

7. Regarding claim 2, "utilize" is structurally vague, and it is not clear how the drive-mode oscillator and the sense-mode oscillator both "utilize" amplification in both directions.

8. The sentence structure of claim 5 needs correction.

9. Regarding claim 6, "a third flexure allows movement substantially only in the sense direction" is structurally unclear since the third mass can move in two directions.

10. Claim 8 needs the subject matter of claim 9 to make it definite and clear.

11. Regarding claim 17, it is structurally unclear how the intermediate proof mass is "intermediate". Further, it is unclear how the sense element is structurally connected in the system.

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Claim Rejections under 35 USC § 102 or § 103

12. Due to the extreme difficulty in structurally interpreting the language 2-DOF and 4-DOF as utilized by applicant, the Examiner cannot determine whether structure found in the art is readable on such language.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Both references to Willig et al show a Coriolis sensor that utilizes three masses with dynamic amplification. Drive element 102 is movable along only the x-axis. Coriolis element 100 is movable along the x- and y-axes. Proof element 140 is movable along the y-axis. Dynamic amplification is involved. Figure 19 of Kato similarly uses three masses, as does Park. Mochida et al use four masses, and Buestgens uses two resonating masses and an intermediate coupling mass.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to John C. Hanley whose telephone number is 571-272-2195. The examiner can normally be reached on M-F 9AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JCH



HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800